REMARKS

This is a supplemental amendment and response to the Final Office Action dated December 18, 2007. By this paper, claims 1-43 remain pending and claim 25 remains withdrawn. Claims 1 and 11 are further amended while claim 5 is canceled. No new matter has been added by virtue of these amendments. Claims 1-7, 11-13, 16-24, and 26-43 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Publication No. 2002/0083067 ("Tamayo") in view of U.S. Patent No. 7,054,828 ("Heching"). The Applicants respectfully submit that each of the pending claims is in condition for allowance as Tamayo in view of Heching fail to teach all of the features of the claims.

REJECTIONS UNDER 35 U.S.C. § 103(a)

A. Independent Claims 1, 11, 16, and 38

All the independent claims were amended, in a response dated February 13, 2008, by adding the term "aggregate" at various locations to clarify that it is with respect to the aggregate on-line interest data that "on-line aggregate behavior is related to, but different than, the aggregate behavior to be modeled." This modeling feature then provides the groundwork for predicting aggregate behavior or economic activity of a population related to a subject or a product. Below are the corresponding amendments of February 13, 2008 along with the current amendments to "the modeling" in each independent claim.

Claim 1:

> providing a modeling system configured to model aggregate behavior of a population as a function of aggregate on-line interest data, . . . wherein the on-line aggregate behavior is related to, but different than, the aggregate behavior to be modeled , and wherein the subpopulation comprises a subset of the population, wherein the aggregate behavior to be modeled is aggregate economic activity.

Claim 11:

> a modeling system configured to model aggregate behavior of a population as a function of aggregate on-line interest data, . . . wherein the on-line aggregate behavior is related to, but different than, the aggregate behavior to be modeled and wherein the subpopulation comprises a subset of the population, wherein the aggregate behavior to be modeled is aggregate economic activity.

Claim 16:

> providing a modeling system configured to model aggregate economic activity of a type of product as a function of aggregate on-line interest data related to products comprising the type, . . . wherein the on-line aggregate behavior is related to, but different than, the aggregate economic activity to be modeled.

Claim 38:

> a modeling system configured to model aggregate economic activity of a type of product as a function of aggregate on-line interest data related to products comprising the type, . . . wherein the aggregate on-line behavior is related to, but different than, the aggregate economic activity to be modeled.

The language absent in each of the above elements, denoted by (. . .), reads "wherein the aggregate on-line interest data is based on passive observation of on-line behavior of a subpopulation," or in other words, language that further modifies what is meant by "aggregate online interest data." Note that all the independent claims now also recite that the aggregate behavior to be modeled is aggregate economic activity.

The Applicants respectfully submit that both Tamayo and Heching fail to disclose "wherein the on-line aggregate behavior is related to, but different than, the aggregate behavior [economic activity] to be modeled" where the online aggregate behavior is "a function of aggregate on-line interest data." Because aggregate behavior is a function of aggregate on-line interest data within the modeling that takes place, one cannot simply separate "aggregate behavior" from "is related to, but different than, the aggregate behavior [economic activity] to be modeled" when analyzing the claims because they are inextricably linked. The Final Office Action attempts to do just that.

The Office Action, in the Response to Arguments, "acknowledges that Tamayo et al. does not teach predicting aggregate behavior (1 and 11) or [aggregate] economic activity (16 or 38)." Page 2, ¶ 2. On page 3, Heching is then relied upon to disclose "predicting aggregate behavior and population estimates for a population based on data obtained from a subset of the population and predicting aggregate behavior of the population related to the subject." This sentence does not appropriately track the claim language. It parses out the last element of the independent claims (the "generating prediction") and then parses out just the language from the modeling element that Heching is purported to teach. This approach chops the "is related to, but different than, the aggregate behavior [economic activity] to be

modeled" from the defined term "aggregate behavior." The Office Action clarifies that "[i]t is important to note that Heching et al. was not relied upon to teach predicting based on data that is related to, but different than, the activity to be modeled." Page 3. The Applicants, therefore, understand that the only claim language purported to be disclosed in Heching is the term "aggregate behavior" in conjunction with "prediction" in a population. Again, using Heching in this way improperly dissects claim language that in inextricably linked and/or within the same phrase.

Accordingly, the Applicants respectfully submit that Tamayo fails to disclose "wherein the on-line aggregate behavior is related to, but different than, the aggregate behavior to be modeled." The independent claims all define "aggregate behavior" as a function of aggregate on-line interest data. Tamayo further fails to disclose "generating . . . a prediction of aggregate behavior [or economic activity] of the population related to the subject" or product, as conceded to in the Office Action on page 3. Note that the language in the modeling element refers to "aggregate behavior to be modeled," which ties directly to the generating element that predicts the aggregate behavior "related to the subject" or product. Accordingly, the modeling and the generating prediction elements are also linked, and Tamayo fails to disclose both.

Furthermore, the Applicants respectfully submit that Heching fails to disclose "wherein the on-line aggregate behavior is related to, but different than, the aggregate behavior to be modeled," to which the Office Action concedes on page 3. Specifically, Heching discloses estimating a population response of a given subject based on a point estimate of that same subject, e.g., it discloses extrapolative prediction of a response by the entire population based on a random sampling of that population related to the same subject. See Col. 4, lines 10-19 and 39-64. The example in Heching is predicting the average annual income for the entire population (N) based on n responses collected to the inquiry of annual income. Heching, therefore, fails to teach that "the on-line aggregate behavior is related to, but different than, the aggregate behavior to be modeled."

Accordingly, for at least the above reasons, the Applicants respectfully submit that claims 1, 11, 16, and 38 are patentable in view Tamayo in view of Heching, and respectfully request the rejection to be withdrawn.

B. Dependent Claims

Dependent claims 2-4, 6-7, 12-13, 17-24, 26-37, and 39-43 depend, either directly or indirectly, from independent claims 1, 11, 16, and 38 and should be allowed for the reasons set out above for the independent claims.

C. Advisory Action

In the Advisor Action dated March 3, 2008, the Examiner renews the rejection, stating that Tamayo "collects implicit data from each member of a subpopulation of users who visit the website. This collection of data from each user of the subpopulation [is] for an aggregate, amassed, or collection of data." Page 2. The Advisory Action, however, fails to renew any reliance on Heching for disclosing prediction of the aggregate behavior of the population with the modeling system. The Advisory Action continues, with total reliance on Tamayo, by stating that the collection of:

> information includes click stream data, time spent on aspects of sites, purchase patterns, etc. See [0034], [0039], [0058]-[0059], [0065], [0112], [0229]-[0030], [0234]-[0235], [0239]. The system is then able to build models and make predictions for these and future users (i.e. the population based on the data held in the system. The system makes predictions such as products to recommend and cross-sell based on colleted implicit data – the implicit data is related to but different than the modeled likelihood of the user to purchase a certain item.

(emphasis added). The Applicants respectfully disagree that Tamayo discloses the above-underlined feature. That Tamayo discloses collecting implicit data does not disclose "generating, with the modeling system, a prediction of aggregate [economic activity] of the population related to the subject" (claim 1), "wherein the modeling system generates a prediction of aggregate [economic activity] of the population related to the subject using the on-line interest data" (claim 11), "generating a prediction of the measure of aggregate economic activity by the population related to the first product with the modeling system" (claim 16), or "wherein the modeling system generates a predicted measure of aggregate economic activity by the population related to the first product using the aggregate on-line interest data" (claim 38). Please note that each of these features is inextricably linked to the modeling system as recited in each respective independent claim.

While the above passage from the Advisory Action includes a number of paragraphs in Tamayo that disclose collections of data, e.g., through "enterprise web mining," the passages

of Tamayo do not disclose the above-listed generating "a prediction of aggregate [economic activity] of the population" features of the independent claims. That is at least because the focus of Tamayo is on the mining of data, and on predicting behavior on part of individual users as they access the system, e.g., browse related internet sites.

For instance, at paragraph [0059], Tamayo discusses three different paradigms that encompass "[m]ost mining data problems," such as "risk assessment, attrition and retention modeling, campaign marketing, fraud detection, customer profiling, profitability and cross-selling." The paragraph goes on to say that "[t]hese application problems are usually viewed from an **account- or user-centric point of view**. All the relevant information for **each** user is merged and consolidated in one record" (emphasis added). Accordingly, that Tamayo's modeling and prediction are user-centric and user-specific is made clear in paragraph [0059]. But, this aspect of Tamayo is disclosed throughout.

The mining problems, such as those discussed in [0059] are readdressed in paragraphs [0065]-[0066], but Tamayo does not disclose, in conjunction with these problems, "generating, with the modeling system, a prediction of aggregate [economic activity] of the population related to the subject." This claim language recites prediction of aggregate behavior of the entire population. For instance, solving the problem of cross-selling is user-specific, which is evident by reviewing paragraphs [0226] through [0230]. That is, products are suggested to the customer "current basket" based on the purchases of a customer with similar purchasing patterns [0229] and based on similar demographics and browsing patterns. [0230]. Accordingly, the prediction is of the current customer, browser or individual.

In paragraphs [0069]-[0070] of Tamayo, it states

> [0069] Another **important aspect** of the present invention is the personalization application. The **personalization application** is an integrated software application that provides a way for a Web site to customize—or personalize—the recommendations it presents to Web site visitors and customers.
> [0070] Recommendations are personalized for each visitor to the web site. This has **distinct advantages over tailoring recommendations to broad, general market segments**. Recommendations are based on a visitor's data and activity such as navigational behavior, ratings, purchase, as well as demographic data.

(emphasis added). Note the highlighted text, especially that of paragraph [0070], strongly teaches away from "generating, with the modeling system, a prediction of aggregate [economic activity] of the population related to the subject" (emphasis added). Tamayo, taken as a whole and in its particular aspects, fails to disclose, and even teaches away, from

"generating, with the modeling system, a prediction of aggregate [economic behavior] of the population related to the subject."

Furthermore, Tamayo later states, in paragraph [0136], that "[s]tep 1108 of process 1100 involves generating online recommendations in response to actions of **an** online user" (emphasis added). This step (1108) is repeated again with reference to FIG. 13. Again, the method steps disclosed by Tamayo only targets individual online users as they access the system. Tamayo also discloses, in paragraphs [0233]-[0235], explicit decision trees or association rules through K-nearest neighbors: query or similarity search of customers with similar buying patters. Again, the "K-nearest neighbors score the **current shopping cart** against the table of aggregate transactions for each customer." [0235]. "First, **the customer profile** is recovered by **assigning him** to a demographic and a browsing behavior cluster. Then, the recommendation is computed taking in account only the transactions generated from customers belonging to the same profile." Id.

Accordingly, Tamayo fails to disclose or suggest "generating, with the modeling system, a prediction of aggregate [economic activity] of the population related to the subject" (claim 1), "wherein the modeling system generates a prediction of aggregate [economic activity] of the population related to the subject using the on-line interest data" (claim 11), "generating a prediction of the measure of aggregate economic activity by the population related to the first product with the modeling system" (claim 16), or "wherein the modeling system generates a predicted measure of aggregate economic activity by the population related to the first product using the aggregate on-line interest data" (claim 38). Heching fails to fill these gaps in Tamayo's disclosure of the independent claims at least because the modeling system referred to in the above-recited features is not disclosed by Heching. The independent claims recite that the modeling system is based on aggregate online-interest behavior is related to, but different than, the aggregate economic activity to be modeled. As discussed above, and in contrast, Heching discloses estimating a population response of a given subject based on a point estimate of that same subject, e.g., it discloses extrapolative prediction of a response by the entire population based on a random sampling of that population related to the same subject. See Col. 4, lines 10-19 and 39-64.

For at least these reasons, independent claims 1, 11, 16, and 38 are patentable over Tamayo and Heching, and the dependent claims are patentable by virtue of their dependency from the same.

Pending claims 1-4, 6-7, 11-13, 16-24, and 26-43, as amended, are patentable. Applicant respectfully requests the Examiner grant allowance of this application. The Examiner is invited to contact the undersigned attorney for the Applicant via telephone if such communication would expedite this application.

Respectfully submitted,

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